

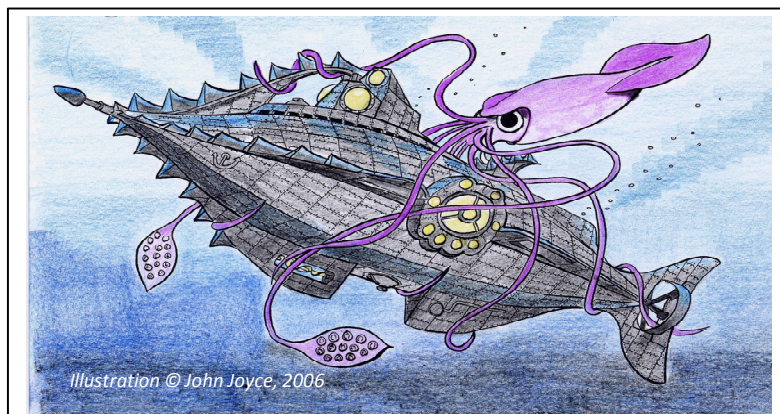
## Lesson Plan: DESIGN AND MAKE AN EXPLORER'S PAPER MACHÉ SUBMARINE!

**Class:** Junior and Senior classes

**Subject:** Art

**Strand:** Drawing, Paint & Colour, Construction

**Strand Unit:** Making drawings, looking and responding, Painting and Making constructions.



### Aim / Learning Objective:

Get inspiration from books, movies and lots of imagination from the students to learn how a submarine works. The students should consider the technology of the future and produce drawings of the submarine featuring the design plans for inside and outside the vessel. Once completed, the students are to create a paper maché of a Super Future Explorers Submarine. Each student should compose and present a short story about their submarine explaining how its future technology works.

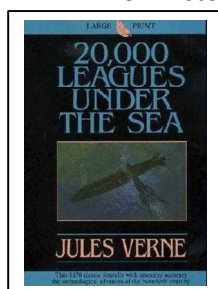
### Skills:

Students will have developed questioning and predicting skills as well as developing an awareness of Line, Shapes, Form, Colour and tone, Texture, Pattern & Rhythm, Space.

### Background:

Over the years, submarines have become the subject of many exciting books and films for all age groups. The following books can be used to inspire students understanding of how submarines work. This lesson plan can also be used with lesson plans:

- Science: What Floats, What Sinks and Why?
- History: Who is John Phillip Holland and What boats sink and float?



Jules Verne's *20,000 Leagues Under the Sea* is probably the most famous book written about a submarine which was published in 1870. This featured the fictional submarine Nautilus, which had a battle with a school of giant squid. The story is considered to be prophetic as it was written decades before submarines of such size and utility became a reality.



John Joyce writes a story about a submarine that can shrink to a size of a sausage. Captain Cockle is a marine biologist, inventor and submarine commander and takes his family on a series of marine exploits.



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### Materials:

- Explorer's illustration of how ballast tanks are used to make submarines sink and float.
- A list of images of famous submarines can be found at the following blog. This can be used to inspire students with their designs: <http://mightylists.blogspot.ie/2010/07/10-famous-submarines.html>. There are also a number of programmes and movies that can be used to illustrate submarines and remotely operated vehicles.
- Balloons (use different shapes)
- Lots of recycled material including plastic bottles, cardboard, newspaper, brown paper bags or white newsprint.
- Glue / Paste (flour paste – mix flour and water)
- Sticky tape and Scissors
- Colouring materials such as paint, crayons, etc
- Optional: aprons to protect students clothes
- Captain Cockle Colouring Book – see [www.explorers.ie](http://www.explorers.ie)
- This lesson plan can also be used with lesson plans:
  - Science: What Floats, What Sinks and Why?
  - History: Who is John Phillip Holland and What boats sink and float?

### Activity:

#### 1. Inspiration & Generation of Ideas:

- Discuss how ballast tanks are used to make a submarine sink and float. Read a book or watch a movie about submarines and generate ideas about making a super submarine model. Share images of famous submarines from songs and movies e.g. The Beatles "Yellow Submarine", James Bond's Lotus submarine car, *The Nautilus* from the movie "20,000 Leagues Under The Sea" etc.

#### 2. Drawing and Designs

- Instruct the students to make sketches of their own super submarine showing plans from the outside and inside. Discuss what rooms they want to include in their super submarine including a kitchen, mess & galley, engine room, hospital, patrol area. Encourage the students to use their imagination and create rooms that could be used in the future such as shops, play room, a room with a jungle etc.
- Blow up the balloons to represent the main body of the submarine. Apply several layers of paper maché (small pieces of newspaper and glue) around the balloon so it is fully covered.
- When the paper maché is dry, add embellishments such as different shaped objects. Cut, roll and tape cardboard onto the model to represent the periscope, ballast tanks etc. (Teachers may have to help with this step). Continue to apply layers of paper maché. Use brown paper or white newsprint paper on the final layer.
- When the final layer is dry, get the students to draw their designs representing the windows, hatches, etc outside the submarine. Paint the submarine model and stick decorations on the outside. Add the final touches and don't forget to name the submarines.

#### 3. Write a Story about the Super Future Submarine

- Encourage the students to compose and write their own story about their super future submarine. Ask the students to think about technology that could be used to shrink their submarine and the adventures they could have in the Explorers Aquarium or a rock pool etc.